

AMENDMENTS TO THE CLAIMS:

Please amend Claims 1-4, 7, 9-11, 13-18, 20, 22-27, 32, 34-36, 39-46, 51 and 54-58 as follows:

1. (Currently Amended) An optical device for use in an optical system for reading an optical code, said optical device comprising a ~~unitary~~ unitarily formed body of opteal optically transmissive material having an aperture forming area and a beam phase modifying area both being integrally formed with said unitarily formed body and receptive of light from a light source for a focus-free forming of a beam for reading the optical code, said ~~unitary~~ unitarily formed body also having an ~~integrated~~ integrally formed collection surface for reflecting at least a portion of light returning from the optical code to a photodetector.
2. (Currently Amended) The device according to claim 1, wherein the aperture forming region comprises an outer region of an inner surface of the ~~unitary~~ unitarily formed body and the beam phase modifying area comprises an inner region of the inner surface of the ~~unitary~~ unitarily formed body.
3. (Currently Amended) The device according to claim 2, wherein the beam phase modifying area further comprises an inner region of an outer surface of the ~~unitary~~ unitarily formed body and the aperture forming area further comprises an outer region of the outer surface of the ~~unitary~~ unitarily formed body.

4. (Currently Amended) The device according to claim 3, wherein the outer region of the outer surface of the ~~unitary~~ unitarily formed body, also referred to as the collection surface, is a beam splitter.
5. (Original) The device according to claim 2, wherein the inner region of the inner surface comprises a converging region for focusing a portion of the light to form said beam and the outer region of the inner surface comprises a diverging region for diverging a portion of said laser light away from said beam.
6. (Original) The device according to claim 5, wherein said converging region is located concentrically within said diverging region.
7. (Currently Amended) The device according to claim 3, wherein the inner region of the outer surface of the ~~unitary~~ unitarily formed body is substantially perpendicular to said beam for transmitting said beam and the outer region of the inner surface is at an oblique angle relative to said beam to form a beam splitting surface for reflecting a portion of return light.
8. (Original) The device according to claim 7, wherein said oblique angle is set such that said beam splitting surface transmits a P-polarized component of said return light and redirects at least a portion of an S-polarized component of said return light.
9. (Currently Amended) The device according to claim 1, wherein the ~~unitary~~ unitarily formed body further comprises a laser support region for supporting a laser source.

10. (Currently Amended) The device according to claim 9, wherein the ~~unitary~~ unitarily formed body has at least one notch configured to support an edge of a circuit board.

11. (Currently Amended) The device according to claim 1, wherein the ~~unitary~~ unitarily formed body comprises an outer surface for collecting return light.

12. (Original) The device according to claim 11, wherein the outer surface is a Brewster's angle beam splitter.

13. (Currently Amended) A multipurpose ~~unitary~~ unitarily formed body for supporting a laser source and collecting light reflected from a target in an optical system, the optical system for projecting and collecting laser light in order to read an encoded indicia, said multipurpose ~~unitary~~ unitarily formed body comprising: a laser support region for supporting said laser source; and at least one collection surface for collecting light reflected from said indicia, said laser support region and said collection surface being integrally formed with said unitarily formed body.

14. (Currently Amended) The multipurpose ~~unitary~~ unitarily formed body of claim 13 further comprising at least one notch, said at least one notch configured to support a circuit board.

15. (Currently Amended) The multipurpose ~~unitary~~ unitarily formed body of claim 13 further comprising at least one stud, said at least one stud configured to support a circuit board.

16. (Currently Amended) The multipurpose ~~unitary~~ unitarily formed body of claim 13 wherein said collection surface is substantially non-polarizing.

17. (Currently Amended) The multipurpose ~~unitary~~ unitarily formed body of claim 13 wherein at least one collection surface can function as a beam splitter.

18. (Currently Amended) A multipurpose ~~unitary~~ unitarily formed body for supporting a laser source and collecting light reflected from a target in an optical system, the optical system for projecting a focused beam of laser light and collecting reflected light in order to read an encoded indicia, said multipurpose ~~unitary~~ unitarily formed body comprising:

a laser support region for supporting said laser source;

an output surface substantially perpendicular to said beam for transmitting said laser light; and

a collection surface for collecting light reflected from said indicia, wherein said collection surface substantially transmits a P-polarized component and a portion of an S-polarized component of said reflected light and redirects an appropriate amount of the remaining S-polarized component of said reflected light to a photodetector to enable said optical system to read said indicia, said laser support region, said output surface and said collection surface being integrally formed with said unitarily formed body.

19. (Canceled)

20. (Currently Amended) The multipurpose ~~unitary~~ unitarily formed body of claim 18 wherein said unitary body has at least one notch, said at least one notch being configured to support an edge of a circuit board.

21. (Canceled)

22. (Currently Amended) A ~~unitary~~ unitarily formed body for collecting light reflected from a target in an optical system, the optical system for transmitting a beam of laser light and collecting reflected light in order to read an indicia, said ~~unitary~~ unitarily formed body comprising: an integrally formed output surface substantially perpendicular to said beam for transmitting said laser light; and a an integrally formed collection surface for collecting light reflected from said indicia, wherein said collection surface substantially transmits a P-polarized component and a portion of an S-polarized component of said reflected light and redirects an appropriate amount of the remaining S-polarized component of said reflected light to a photodetector to enable said optical system to read said indicia.

23. (Currently Amended) The ~~unitary~~ unitarily formed body of claim 22 wherein said collection surface has an oblique angle ~~is~~ set such that said collection surface substantially transmits a P-polarized component of said reflected light and redirects a sufficient amount of an S-polarized component of said reflected light to enable said optical system to decode said indicia.

24. (Currently Amended) In a method for reading optical codes, a method of forming a beam of light comprising the steps of:

emitting light from a light source; and

passing the light through a ~~unitary~~ unitarily formed body of ~~optical~~ optically transmissive material which forms an aperture using an integrally formed aperture forming area and modifies a beam phase using a ~~a~~ an integrally formed beam phase modifying area to effect a focus free forming of a beam for reading the optical code, said ~~unitary~~ unitarily formed body further collects reflected light received from the optical code and directs at least a portion of said received light to a photodetector using a ~~a~~ an integrally formed collection area.

25. (Currently Amended) The method according to claim 24, wherein the aperture forming region comprises an outer region of an inner surface of the ~~unitary~~ unitarily formed body and the beam phase modifying area comprises an inner region of the inner surface of the ~~unitary~~ unitarily formed body.

26. (Currently Amended) The method according to claim 25, wherein the beam phase modifying area further comprises an inner region of an outer surface of the ~~unitary~~ unitarily formed body and the aperture forming area further comprises an outer region of the outer surface of the ~~unitary~~ unitarily formed body.

27. (Currently Amended) The method according to claim 26, wherein the outer region of the outer surface of the ~~unitary~~ unitarily formed body, also referred to as the collection area, is a beam splitter.

28. (Original) The method according to claim 25, wherein the inner region of the inner surface comprises a converging region for focusing a portion of the light to form said beam and the outer region of the inner surface comprises a diverging region for diverging a portion of said laser light away from said beam.

29. (Original) The method according to claim 28, wherein said converging region is located concentrically within said diverging region.

30. (Original) The method according to claim 27, further comprising receiving return light on the beam splitter and redirecting a portion of the return laser light to a photodetector.

31. (Original) The method according to claim 24, wherein the step of aperture forming further comprises the step of redirecting divergent light energy from the periphery of said beam using an internal reflection surface.

32. (Currently Amended) A method of generating a signal from an indicia having elements of varying reflectivity, said method comprising the steps of: passing P-polarized laser light from a laser source in a optical code reader through a ~~unitary~~ unitarily formed body of ~~optical~~ optically transmissive material which forms an aperture using an aperture forming area and modifies a beam phase using a an integrally formed beam phase

modifying area to effect a focus free forming of a beam for reading the optical code; and
detecting a sufficient amount of an S-polarized component of light reflected from said
indicia to enable decoding of said optical code.

33. (Original) The method according to claim 32, wherein said detecting step comprises
using at least one surface of said unitary body to redirect said S-polarized component.

34. (Currently Amended) The method according to claim 32, further comprising the step
of supporting said laser source using said ~~unitary~~ unitarily formed body.

35. (Currently Amended) The method according to claim 32, further comprising the step
of supporting at least one circuit board using said ~~unitary~~ unitarily formed body.

36. (Currently Amended) A method of generating a signal from a target, comprising the
steps of:

focusing P-polarized laser light from a laser source along an optical path through a
~~unitary~~ unitarily formed body of ~~optical~~ optically transmissive material in a bar code
reader to said target;

redirecting at least a part of an S-polarized component of light reflected from said target
using at least one surface of said ~~unitary~~ unitarily formed body, said surface further
substantially transmits the P-polarized component and the remaining S-polarized
component of said reflected light; and

detecting at least a part of said redirected S-polarized component of light reflected from
said target.

37. (Original) The method of claim 36 wherein said projecting comprises manually controlling the position of the beam.

38. (Original) The method of claim 36 wherein said redirecting comprises using at least one Brewster's angle beam splitter to redirect said part of said S-polarized portion of light.

39. (Currently Amended) The method of claim 36 wherein said projecting comprises supporting said laser source using said ~~unitary~~ unitarily formed body.

40. (Currently Amended) The method of claim 39 further comprising using said ~~unitary~~ unitarily formed body for supporting at least one circuit board.

41. (Currently Amended) The method of claim 36 wherein said projecting step comprises supporting at least one circuit board using said ~~unitary~~ unitarily formed body.

42. (Currently Amended) An optical code reader for reading an optical code by projecting laser light at said indicia and collecting light reflected from said optical code, the optical code reader comprising:

a pen-shaped housing;

a laser source for emitting said laser light;

a ~~unitary~~ unitarily formed body of optically transmissive material for focusing said light into a beam, said ~~unitary~~ unitarily formed body having an integrally formed output surface perpendicular to said beam through which said beam can be transmitted toward

said optical code and a an integrally formed collector surface positioned for directing at least a portion of said returning beam to a photodetector; and

a detector for receiving a portion of light reflected from said optical code by said integrally formed collector surface and producing an electrical signal corresponding to the intensity of said reflected light, wherein said laser source, said ~~unitary~~ unitarily formed body, said integrally formed collector and said detector are situated in said housing.

43. (Currently Amended) The reader of claim 42 wherein said ~~unitary~~ unitarily formed body further comprises an aperture forming area and a beam phase modifying area both receptive of light from a light source for the focus free forming of a beam for reading the optical code.

44. (Currently Amended) The reader according to claim 43, wherein the aperture forming region comprises an outer region of an inner surface of the ~~unitary~~ unitarily formed body and the beam phase modifying area comprises an inner region of the inner surface of the ~~unitary~~ unitarily formed body.

45. (Currently Amended) The reader according to claim 44, wherein the beam phase modifying area further comprises an inner region of an outer surface of the ~~unitary~~ unitarily formed body and the aperture forming area further comprises an outer region of the outer surface of the ~~unitary~~ unitarily formed body.

46. (Currently Amended) The reader according to claim 45, wherein the outer region of the outer surface of the ~~unitary~~ unitarily formed body is a beam splitter.

47. (Original) The reader according to claim 44, wherein the inner region of the inner surface comprises a converging region for focusing a portion of the light to form said beam and the outer region of the inner surface comprises a diverging region for diverging a portion of said laser light away from said beam.

48. (Original) The reader according to claim 47, wherein said converging region is located concentrically within said diverging region.

49. (Original) The reader of claim 46 wherein said outer region of the outer surface is arranged at an oblique angle relative to said beam.

50. (Original) The reader of claim 49 wherein said oblique angle is set such that said beam splitter substantially transmits a P-polarized component of return light and redirects at least a part of an S-polarized component of said return light for decoding.

51. (Currently Amended) The reader of claim 42 wherein said ~~unitary~~ unitarily formed body further comprises a laser support region for supporting said laser source.

52. (Original) The reader of claim 42 further comprising at least one circuit board in said housing.

53. (Currently Amended) The reader of claim 52 wherein said ~~unitary~~ unitarily formed body has at least one notch for supporting said at least one circuit board.

54. (Currently Amended) A wand reader for reading an optical code by projecting a focused beam of light at said optical code and collecting return light reflected from said optical code, the reader comprising:

a light source for emitting light energy;

a ~~unitary~~ unitarily formed body of optically transmissive material for focusing said light energy into the focused light beam, said ~~unitary~~ unitarily formed body having an an integrally formed output surface perpendicular to said focused light beam through which said focused light beam can be transmitted toward said optical code and a ~~a~~ an integrally formed collector surface positioned for directing at least a portion of said returning beam to a photodetector; and

a detector for receiving a portion of the return light reflected from said optical code and producing an electrical signal corresponding to the intensity of said return light, wherein said light source, said ~~unitary~~ unitarily formed body and said detector are situated in an antenna for use with a wireless transceiver of a telephone or personal digital assistant.

55. (Currently Amended) The reader of claim 54 wherein said ~~unitary~~ unitarily formed body further comprises an aperture forming area and a beam phase modifying area both receptive of light from a light source for the focus free forming of a beam for reading the optical code.

56. (Currently Amended) The reader according to claim 55, wherein the aperture forming region comprises an outer region of an inner surface of the ~~unitary~~ unitarily formed body

and the beam phase modifying area comprises an inner region of the inner surface of the ~~unitary~~ unitarily formed body.

57. (Currently Amended) The reader according to claim 56, wherein the beam phase modifying area further comprises an inner region of an outer surface of the ~~unitary~~ unitarily formed body and the aperture forming area further comprises an outer region of the outer surface of the unitary body.

58. (Currently Amended) The reader according to claim 57, wherein the outer region of the outer surface of the ~~unitary~~ unitarily formed body, the collector surface, is a beam splitter.

59. (Original) The reader according to claim 56, wherein the inner region of the inner surface comprises a converging region for focusing a portion of the light to form said beam and the outer region of the inner surface comprises a diverging region for diverging a portion of said laser light away from said beam.

60. (Original) The reader according to claim 59, wherein said converging region is located concentrically within said diverging region.

61. (Original) The reader of claim 58 wherein said outer region of the outer surface is arranged at an oblique angle relative to said beam.